

REMARKS

Claims 3-38 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

CLAIM OBJECTION

Claim 11 is objected to because the term "valleys" should be replaced with "concavities" for consistency. Claim 11 has been amended to delete "valleys" and insert therefore, - - concavities - -. This objection should now be moot.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 2, 9, 17, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Abe et al (U.S. Pat. No. 6,104,460). This rejection is respectfully traversed.

Claims 1 and 2 have been cancelled. Claims 9, 17, and 19 have been amended to be dependent on claim 3, which has been rewritten in independent form. Claim 3 now calls for a substrate for a liquid crystal device comprising a base and a light reflecting film formed on the base, wherein a pattern is formed by aligning at least one of a plurality of convexities and a plurality of concavities. The convexities and concavities are pyramid shape in plane section and the light reflecting film having the pattern provides light directivity and light scattering. Lastly, claim 3 calls for a spatial shape of the convexities or the concavities along one of two orthogonal axes that pass through the convexities or concavities to be different from a spatial shape that extends

along the other axis. Abe does not anticipate such a structure. More particularly, Abe does not anticipate a spatial shape of the convexities or the concavities along one of two orthogonal axes that pass through said convexities or concavities to be different from a spatial shape that extends along the other axis.

Since Abe does not anticipate claim 3, Applicant respectfully asserts that dependent claims 9, 17, and 19 are not anticipated for at least the same reasons. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 3-6, 8, and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US'460), Mitsui et al. (US '635), Umemoto (US 2002/0039155 A1) and Yoshida et al. (US 2002/0122144 A1) in view of Funada (JP 2000-321998). This rejection is respectfully traversed.

As stated above, claim 3 has been rewritten in independent form. Claim 3 now calls for a substrate for a liquid crystal device comprising a base and a light reflecting film formed on the base, wherein a pattern is formed by aligning at least one of a plurality of convexities and a plurality of concavities. Further, claim 3 calls for the convexities and concavities to be pyramid shape in plane section and for the light reflecting film to have a pattern that provides light directivity and light scattering. Lastly, claim 3 calls for a spatial shape of the convexities or the concavities along one of two orthogonal axes that pass through the convexities or concavities to be different from a spatial shape that extends along the other axis. Neither Abe, Mitsui et al., Umemoto '155, Yoshida et al., Funada, nor any combination thereof yields such a structure. That

is, none of the cited references teach a pyramid shape. At best, Umemoto '155 teaches prismatic structures that are substantially triangle or quadrangle in shape. These structures, however, still do not render the pyramid shape obvious. As such, reconsideration and withdrawal of this rejection is respectfully requested.

Claim 4 has also been rewritten in independent form. Claim 4 now calls for a substrate for a liquid crystal device comprising a base, a light reflecting film formed on the base. Claim 4 also calls for the light reflecting film to have a pattern that provides light directivity and light scattering and for the pattern to be formed by aligning at least one of a plurality of convexities and a plurality of concavities, wherein one side of a spatial shape of the convexities or the concavities bisected by at least one of the two orthogonal axes that pass through the convexities or concavities is asymmetric with the other side thereof. Examples of these structures are depicted, for example, in Figures 12(d) and 15(b). Neither Abe, Mitsui et al., Umemoto '155, Yoshida et al., Funada, nor any combination thereof yields such a structure. That is, none of the cited references teach a one side of a spatial shape of the convexities or the concavities bisected by at least one of the two orthogonal axes that pass through the convexities or concavities is asymmetric with the other side thereof. As such, the claimed structure is not obvious.

Claims 5, 6, and 10 are dependent on either independent claim 3 or independent claim 4. Applicant respectfully asserts, therefore, that these claims are not obvious for at least the same reasons.

Claim 8 has been cancelled. Therefore, the rejection of claim 8 is moot.

Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US '460) in view of Mitsui et al. (US '635).

Claim 7 is cancelled. As such, this rejection is moot.

Claim 11 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui et al. (US '635) in view of Yoshinobu et al. (JP 06-102507).

The Examiner alleges that it would have been obvious to modify Mitsui and Yoshinobu for improving luminance as noted in Yoshinobu. Applicant respectfully asserts, however, that Yoshinobu provides no suggestion or motivation to combine its teachings with those of Mitsui. That is, referring to Figure 1 of Yoshinobu, the light quantity adjustment pattern is not the multi-prism sheet, but is a separate layer 4 formed on a surface of the irradiating means 3. Further, the reflecting layer 6 is formed on a back surface of the irradiating means. In contrast, the substrate called for in claim 11 includes a base and a light reflecting film on the base, wherein the convexities and concavities are formed in the light reflecting film. Since the light adjustment pattern is not formed on the substrate, but on the irradiating means 3, there is no suggestion or motivation to modify Mitsui with the teachings of Yoshinobu. As such, Applicant respectfully asserts that claim 11 is not obvious.

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui et al. (US '635) and Yoshinobu et al. (JP 06-102507) in view of Umemoto et al. (US 2002/0005922 A1).

Claim 12 is dependent on independent claim 11, addressed above. Claim 12 is not obvious for at least the same reasons.

Claims 13-16 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui et al. (US '635) in view of Umemoto (US 2002/0039155 A1) and Yoshida et al. (US 2002/0122144 A1) in view of Funada (JP 2000-321998).

Claim 13-16 and 18 call for a method of manufacturing either a substrate for a liquid crystal device or a liquid crystal device. Claim 13 has been amended to call for the convexities and concavities to be formed as a pyramid shape in plane section. As stated above in connection with claim 3, neither Abe, Mitsui et al., Umemoto '155, Yoshida et al., Funada, nor any combination thereof yields such a structure. That is, none of the cited references teach a pyramid shape. At best, Umemoto '155 teaches prismatic structures that are substantially triangle or quadrangle in shape. These structures, however, still do not render the pyramid shape obvious. As such, reconsideration and withdrawal of this rejection is respectfully requested.

Claim 14 calls for a method, wherein a shape of one side of a mask pattern of the mask for the plurality of convexities or the plurality of concavities that is bisected by at least one of two orthogonal axes that pass through the convexities or concavities is asymmetric with the other side thereof. This is analogous to claim 4, addressed above, and examples of these structures are depicted in Figures 12(d) and 15(b). Neither Abe, Mitsui et al., Umemoto '155, Yoshida et al., Funada, nor any combination thereof yields such a structure. That is, none of the cited references teach a one side of a spatial shape of the convexities or the concavities bisected by at least one of the two orthogonal axes that pass through the convexities or concavities is asymmetric with the other side thereof. As such, the claimed method of producing such a structure is not obvious.

Claims 15, 16, and 18 are dependent on either independent claim 13 or 14, and are not obvious for at least the same reasons. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

NEW CLAIMS

New claims 20-38 have been added. Favorable consideration of these new claims is respectfully requested.

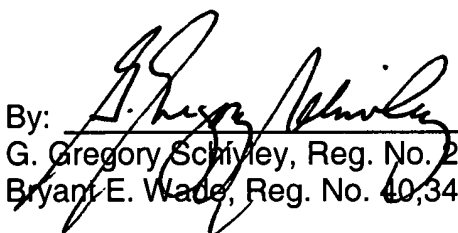
CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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